

THE EXPERIENCE OF LONELINESS IN ORGANISATIONAL SETTINGS

S. L. Wright PhD

Management Department

College of Business and Economics

University of Canterbury

Private Bag 4800

Christchurch 8140

New Zealand

Tel: (+64) 3 364 3570

Fax: (+64) 3 364 2020

e-mail: sarah.wright@canterbury.ac.nz

THE EXPERIENCE OF LONELINESS IN ORGANISATIONAL SETTINGS

Loneliness research tends to focus on personal characteristics as the primary determinant of the experience, and largely ignores the workplace as a trigger. A theoretical model of loneliness at work was developed, taking into account both personality and organisational factors. 363 employees from diverse occupational backgrounds participated in the study. SEM results indicate that organisational climate serves to simultaneously predict the emotional deprivation factor of loneliness and employee attitudes. The results suggest that contextual factors such as fear, lack of community spirit, and value congruence predict loneliness in organisations. The study represents a work-in-progress and offers insight for future research.

Shortly after I started studying loneliness, an acquaintance informed me that work-related loneliness “wouldn’t be worth studying”, as it simply “wasn’t a major problem in the business world”. However, not long after the comment was made I came across this headline:

BRITISH BUSINESS LEADERS SUFFER FROM OFFICE POLITICS AND LONELINESS

“British business leaders battle against office politics and loneliness, according to results of a survey announced today for the International Leadership Summit Leaders in London ... Asked to indicate the worst elements of business leadership 43 per cent of respondents answered politics, while 31 per cent indicated that loneliness was the most unpleasant aspect of the job ... just 8% of respondents said responsibility was the worst part of their job and a tiny 6% said they disliked being criticised as part of the role ... ‘Loneliness is an unavoidable by-product of effective people management’ said Gary Fitzgibbon, chartered occupational psychologist. ‘A good leader must exhibit fairness, objectivity and emotional detachment – this last quality in particular prevents the development of special relationships with colleagues and therefore renders the leader isolated and alone in the work environment’ ... ”¹

If we are to believe anecdotal literature and media reports, loneliness bedevils many successful executives and business leaders. However, it is puzzling that a phenomenon already reported as a current experience by so many organisational leaders should receive so little attention by researchers. Several commentators have argued that the availability and quality of social relationships in the workplace is diminishing (e.g. Joyce, 2004), however loneliness in the workplace has been curiously neglected as a research topic. This paper seeks

¹ Retrieved from the WWW on 28 June 2004 from www.leadersinlondon.com/pressroom.cfm?prid=22

to rectify this situation, and represents the beginning of a research programme aimed at addressing loneliness in organisations.

The words ‘lonely’ and ‘loneliness’ have been given both objective and subjective meanings in their common everyday usage. They are often used in the media to refer to isolation, aloneness, solitude or social dysfunction. Strictly speaking however, loneliness is a subjective construct; a self-perceived interpersonal deficiency revealing how an individual experiences the discrepancy between their personal relationships and their social environment (Peplau & Perlman, 1982). Loneliness reflects a breakdown in social interaction and poor quality interpersonal relationships. In an article on the experiential nature of loneliness, Killeen (1998: 763) comments that loneliness “can make you feel as though you are the only person in the world ... it can make you feel totally isolated and useless; that your life is without purpose. It can make you look for other things to fill the painful abyss of your life ... [Loneliness] is as individual as your every thought ... one moment you are feeling alone but comfortable; the next minute you feel like you are the only person in the world ...” These descriptions suggest there are various subjective clusters of feelings, thoughts and behaviours which lead a person to conclude ‘I am feeling lonely’.

In most organisations, work consists of more than simply technological and intellectual processes. For many, the act of ‘working’ is considered a social institution which requires the continual fostering of human cooperation (Berman, West, & Richter, 2002). As such, the basic need for human connection does not cease to exist upon entering the workplace. Rather, the need for affiliation appears to be essential for physical and psychological wellbeing across the life span, including life at work (Cacioppo, Hawkley & Bernston, 2003). However, the experience of feeling lonely has little to do with the number of social relationships an individual may have, but rather lies with the quality and meaningfulness of those relationships (e.g. Gaev, 1976). Given this, I have defined loneliness

at work as *emotional distress caused by the perceived lack of good quality interpersonal relationships between employees in a work environment*. Recognising that loneliness is not synonymous with actual social contact, this paper argues that the discrepancy between actual and desired camaraderie at work, and the inability to rectify the deficiency can engender feelings of loneliness.

Loneliness is often perceived as a selfish pursuit which is driven by interpersonal incompetence or social inhibition. Both in research settings and in the wider population, there appears to be a ‘blame the victim’ mentality for the development of loneliness. As such, personal factors tend to be overestimated as reasons for social difficulties, whilst only modest emphasis is given to environmental factors. However, it is reasonable to assume that not all people are lonely solely because of their disposition. When the environment is not fulfilling social provisions adequately, a usually well-adjusted sociable character can develop the behaviours and thought processes typically attributable to lonely individuals (Ernst & Cacioppo, 1998). Workplaces can, and do, exhibit characteristics that can lead to social and emotional isolation, and therefore the potential for work-related loneliness to be a personal and an organisational problem should not be overlooked. Borrowing concepts from the poet Wordsworth (de Botton, 2002), who accused cities of fostering life-destroying emotions, organisations too can harbour unpleasantness, which erodes the potential benefits of being part of a working community. In a fearful, untrusting or self-serving atmosphere, some organisations have the potential to foster an ‘anxious’ environment where genuine social connection with other co-workers are not feasible. Characteristics of the working environment might therefore be considered ‘loneliness-provoking factors’ (de Jong-Gierveld, 1987). This paper explores the idea that the interaction between the work environment and the employee’s disposition plays a dual role in the development of loneliness.

In their conclusion Marangoni and Ickes (1989: 124) note that “... in addition to the variables documented to be individually and interactively influential in the experience of loneliness, researchers should focus greater attention on the domain where such variables would be most acutely felt: in the individual’s ongoing, long-term, naturalistic patterns of relationship formation, elaboration and dissolution”. What better place to start than the workplace; an institution that consumes the majority of waking hours and absorbs most of our social opportunities?

THEORY AND HYPOTHESES

Figure 1 illustrates the loneliness at work model developed for this study. The model explores the relative influence of personality traits, job characteristics, and organisational characteristics on loneliness and the consequent effect on employee attitudes and wellbeing. Although mentioned in the literature, the structural conditions in which loneliness is formed are seldom analysed in research. Furthermore, an understanding of how such interactions jointly affect vulnerability to loneliness continue to be overlooked in much of the research literature. The remainder of this section delineates the roles each construct plays within the model.

Insert Figure 1 about here

Antecedents of Loneliness at Work: Factors Relating to the Person

Loneliness not only mirrors dissatisfaction with social relationships but also reflects negative emotions. Without blaming lonely individuals for their plight it is important to recognise that certain dispositional characteristics do predispose some people to experience severe loneliness, more so than others.

Personal characteristics. Research has consistently identified introversion and emotional instability as the two main personality factors related to loneliness (e.g. Hojat, 1982; Russell, Peplau & Cutrona, 1980; Saklofske, Yackulic & Kelly, 1986; Stokes, 1985). Not surprisingly, this research has identified that sociable, emotionally stable, easy-going ‘extraverts’ tend to manifest the very behaviours that reduce the likelihood of experiencing loneliness. It is therefore likely that the individual who is anxious at work and is less inclined to socialise with their co-workers, is likely to feel dissatisfied with the quality of their relationships in the workplace.

The inclination to inhibit one’s relationships because of a competitive nature is an additional personal characteristic integrated into the model, but is reasonably novel in the literature. However, such notions adhere to the lay belief that those who strive for and reach the ‘top’ are more likely to be ‘lonely’. Possessing a competitive attitude usually indicates that the individual has an orientation towards winning, and therefore aims to outperform others. As such, the path to success in the workplace is often demonstrated through an individual outperforming a fellow co-worker. Such behaviour could result in one not trusting, confiding in, or socialising with their co-workers in order to gain a competitive advantage, which could possibly create a fairly isolated existence for the individual. Moreover, to outperform others usually requires markedly improving one’s performance and sacrificing relationships in the process (Wright, 1992), which could result in feelings of loneliness. While it is recognised that intrinsic rewards can be gained from exceptional work performance over and above relationship development (Franken & Brown, 1995), continually striving to outperform others may, over time, result in less meaningful relationships.

Hypothesis 1. Employees who are introverted, emotionally unstable and competitively minded will be more likely to experience loneliness at work.

Antecedents of Loneliness at Work: Factors Relating to the Environment

Sources of Social Support. Social support refers to the perception of help, guidance, comfort and information one receives from their social network (Cobb, 1976). Social interaction at work in terms of the relationships between co-workers as well as between the employee and their supervisor is becoming crucial to organisation success (Pfeifer, & Veiga, 1999) and is considered a necessary prerequisite for organisational health (Moore, 1996). Those who perceive a sense of support enjoy better psychological wellbeing than those who do not (Saranson, Saranson and Pierce, 1990). Genuine social support from management and from an employee's colleagues can engender feelings of trust and belongingness within the organisation. Gilbreath (2004) found that a supportive style of supervision enhances employee wellbeing and helps protect employees from tension, depression, emotional exhaustion and health complaints. Conversely, poor social support at work can foster a 'cold' emotional climate and may generate feelings of loneliness.

In terms of non-work support, friends and family can also act as a buffer to emotional exhaustion resulting from work overload (Dolan & Renaud, 1992). As such, individuals who are supported by someone outside the work environment may gain a sense of affiliation, and therefore feel less burdened by the deficiencies they are experiencing at work. Because of the importance of social support to wellbeing, it is reasonable to expect that a lack of perceived social support from co-workers, supervisors, friends and family will play a role in the development of loneliness at work.

Hypothesis 2. Employees who report social support from their co-workers, supervisors and non-work sources will be less likely to experience loneliness at work.

Job Characteristics. Perhaps the most familiar job characteristic related to loneliness is the ‘loneliness of command’ or being ‘lonely at the top’. Arguably the most consistent characteristic of a senior ranked position, in either the private or public sector is the number of employees the position is responsible for. The idea that a span of control can influence feelings of loneliness stems from the idea that a management role often comes with very little lateral support. Not surprisingly, being higher in the organisation results in fewer opportunities for feedback and social dialogue from others, simply because the top is not a very crowded place (as depicted in the ‘Leaders in London’ article outlined at the beginning of this paper). Therefore, lack of social support and consequent isolation may, to some extent, be due to the non-reciprocity of superior-subordinate workplace relationships, in that support is perceived to be provided by managers but is seldom available to them (Lindorff, 2001). Furthermore, managers are often required to influence and control subordinates, which may require a certain degree of social distance resulting in a loss of camaraderie (McDonald, 1985). It is therefore thought that the more employees one is responsible for, the greater the social distance they are required to maintain, and the greater likelihood of feeling emotionally disconnected and lonely at work.

Typically, the more senior one is within the organisation, the more hours they are likely to work, or be expected to work. Jex (1998) indicates that heavy workload is associated with feelings of anger, tension, personal failure, job dissatisfaction and lower levels of job performance. Feeling overextended due to a heavy workload can potentially place a significant burden on one’s interpersonal relationships. Therefore, quantitative work overload may in part influence the development of loneliness at work.

Hypothesis 3. Employees with a large span of control and a heavy workload are more likely to experience loneliness at work.

Organisational Climate. Loneliness encompasses a myriad of negative emotions; it would therefore be expected that the experience of loneliness in the workplace would be associated with negative organisational characteristics. The concept of organisational climate refers to the quality of the organisation's internal environment, especially as interpreted by the employees (Tagiuri, 1968). Fine (1986) argues that the work environment and the culture of the organisation shapes and directs worker relationships. Cultural traditions within the workplace connect workers to the organisation as a whole, producing a sense of belonging, a shared sense of values, and making personal ties within the company more likely. Workplace climates which emphasise fear, self-interest, and a lack of community spirit may prove problematic in promoting workplace friendships or collegiality (Ashkanasy & Nicholson's, 2003; Fine, 1986). A climate of fear can also result in a feeling of helplessness or loss of control (Dozier, 1998) and may lead to feelings of loneliness, which is also often associated with feelings of helplessness. Furthermore, an environment where co-workers are in direct competition for scarce resources may also prove detrimental to workplace camaraderie and the development of interpersonal connections. This would be particularly evident if the values of the employee were incongruent with the organisation's values. It would therefore be expected that a lack of social connectedness at work would be associated with increased levels of loneliness. The inclusion of a community spirit variable into the research hypotheses reflects the notion that positive interpersonal relationships at work are 'good medicine' and are integral to a sense of wellbeing (Peplau, 1985).

Hypothesis 4. A negative organisational climate, in terms of a climate of fear, lack of community spirit, and poor fit between the employee and the organisation's values, will be associated with loneliness at work.

Loneliness at Work

Previous research has demonstrated that loneliness at work is a two dimensional construct, made up of emotional deprivation and a lack of social companionship at work (Wright, Burt & Strongman, 2006). The emotional deprivation factor signifies the qualitative aspects of co-worker relationships, referring to employees who feel isolated, alienated, disconnected and emotionally distant. The social companionship factor refers to the quantitative aspects of co-worker relationships, and is perceived by employees as sharing, spending time with others at work, being part of a group and other aspects that depict reliable and plentiful social camaraderie. As such, loneliness at work is defined as those who experience emotional deprivation in their relationships at work, and feel a lack of social companionship. This framework supports Weiss' theory of loneliness in that loneliness comprises both emotional and social isolation (Weiss, 1973). As per the loneliness at work model, these feelings are derived from personal characteristics, job characteristics, social support, and a negative organisational climate. Those lonely feelings are then predicted to drive withdrawal behaviours and negative attitudinal responses.

Consequences of Loneliness at Work

Employee Attitudes. Dissatisfied employees tend to withdraw from their organisations, either through psychological disconnection or actual job departure (Hanisch, 1995). Essentially, if an employee feels lonely at work, either through emotional or social detachment, it follows that they are likely to psychologically withdraw from that environment. This is particularly notable as both loneliness and organisational commitment appear to have an affective component as their underlying basis. Additionally, Lee, Mitchell and Wise (1996) found an association between interpersonal relationships at work and turnover intentions.

Poor relationships with co-workers surfaced as the most salient reason for withdrawing from the organisation. It is therefore predicted that loneliness at work has a negative effect on employee attitudes, instigating low organisational commitment and a desire to withdraw from the organisation.

Hypothesis 5. Employees who experience loneliness at work are more likely to have low organisational commitment and a higher intention to leave the organisation.

Wellbeing. Lonely individuals appear to judge their relationships and their consequent wellbeing on negative foundations, which in turn can enhance negative cognitive appraisals and affective responses about their wellbeing (Cacioppo, Hawkley & Bernston, 2003). Previous research suggests that negative interpersonal relations and the absence of support from co-workers and supervisors can be a major stressor for many workers (Cooper, Dewe & O'Driscoll, 2001). Rice, Near & Hunt (1980) found that the nature of one's job influences the degree of overall life satisfaction, in that the type of occupation, the prestige of that occupation, and the degree of challenge in the job increase happiness with life in general. Hart (1999) also found that workplace factors, including relationships, significantly contribute or spill-over to an individual's wellbeing. As such, issues associated with social relationships in the workplace appear to play an important part in the stress process and contribute to job and life satisfaction.

Hypothesis 6. Employees who experience loneliness at work are more likely to report lower levels of job satisfaction and life satisfaction, and higher levels of occupational stress.

METHOD

Procedure and Sample

The medium for data collection was an anonymous research questionnaire published over the internet. Participants were recruited by email from several sources, including national business directories, email lists, and poster advertisements. Three hundred and seventy four employees participated in the research. The majority of participants were women (65% of sample), were married or in a recognised de facto relationship (65%), worked full-time (83%), had an average tenure in their job of 4.2 years, and organisation tenure of 6.4 years, were from New Zealand (57%), and held at least a Bachelor's degree (74%). The average age of the participants was 37.8 years. The participants came from diverse occupational backgrounds: educators (21%), managers or directors (15%), researchers or scientists (13%), and administrators (9%), with the remainder representing an eclectic mix of roles and occupations. Data sets with substantial missing data were deleted, leaving 363 useable cases. Missing data within these cases were imputed using NORM software. Overall, the variance of the data did not significantly change after imputation had been conducted.

Construct Measures

A series of previously established scales were included in the study, along with demographic questions including age, gender, marital status, job level, and tenure in the job and organisation. The alpha coefficients for the measures found in this study are reported in Table 1.

Extraversion and Emotional Stability. The items used to assess extraversion and emotional stability came from the International Personality Item Pool (IPIP; Goldberg, 1999). The scales for the two constructs consist of ten items each. The inventories use a five-point Likert scale to assess participants' responses to the items. According to Goldberg (1999),

Cronbach coefficient alphas for the scales are $\alpha = .87$ for extraversion and $\alpha = .86$ for neuroticism/emotional stability.

Competitive Attitude. Competitive attitude was measured using a 5-item sub-scale ('desire to win') of a five-factor competitiveness measure designed by Franken and Brown (1995). This sub-scale is defined by the drive and personal satisfaction the individual gains from competing, winning, and therefore performing to a high standard relative to others. Respondents were asked to indicate on a five-point scale whether the item was 'not at all like me' to 'very much like me'. The Cronbach alpha coefficient as reported by Franken and Brown's (1995) was $\alpha = .83$ on a sample of 486 university students in an undergraduate psychology course.

Co-Worker Support. Co-worker support was measured using O'Driscoll's (2003) four-item subscale of co-worker social support. The scale measures emotional and instrumental support on a five-point Likert scale. Items included in the scale consisted of support from co-workers in four ways: helpful information and advice, sympathetic understanding and concern, clear feedback, and practical assistance. The reported Cronbach alpha coefficient for the scale was $\alpha = .85$.

Non-Work Support. Non-work support was measured using a 4-item subscale from Caplan, Cobb, French, Van Harrison and Pinneau (1975). The four items measure emotional and instrumental social support from spouse, family and friends. Responses are obtained on a five-point Likert scale. The reported Cronbach alpha coefficient for the scale was $\alpha = .81$.

Supervisor Support. The degree of supervisor support employees received was measured using Greenhaus, Parasuraman, and Wormley's (1990) nine-item scale. The scale is designed to measure the extent to which employees feel they receive supervisory support in their job. Respondents use a five-point Likert scale to measure their perception of supervisory support. The reported Cronbach alpha coefficient for the scale was $\alpha = .93$.

Span of Control. Span of control was measured using a single item “How many employees are you responsible for?”

Workload. Workload was measured using four items from the Healthy Work Organisation Model (Vandenberg, Park, DeJoy, Wilson, & Griffin-Blake, 2002), which were originally adapted from a task demand scale developed by Klitzman, House, Israel and Mero (1990). According to Vandenberg *et al.* (2002) an employee’s workload consists of the quantitative daily demands of the work situation. Responses are provided on a five-point Likert scale. The Cronbach alpha coefficient as reported by Vandenberg *et al.* (2002) was $\alpha = .78$.

Climate of Fear. Ashkanasy and Nicholson’s (2003) 13-item climate of fear scale measured the extent to which employees experienced fear within their workplace. The scale employs a seven-point Likert scale to assess the response to each item. The reported Cronbach alpha coefficient for the single-factor scale was $\alpha = .79$.

Community Spirit. Community spirit at work was measured using an eight-item sub-scale designed by Ashmos and Duchon (2000). The measure was designed as a seven-factor scale collectively measuring spirituality at work. For the purposes of the current research, the first factor identified as ‘Conditions for Community’ was used to assess perceived community spirit, unity and cooperation in the organisation. The measure uses a seven-point Likert-scale. The Cronbach alpha coefficient as reported by Ashmos and Duchon (2000) was $\alpha = .86$.

Person-Environment Fit. The perceived fit an employee has with his or her work environment in terms of value congruence was measured using Cable and Judge’s (1996) three item scale. Responses are anchored on a five-point scale ranging from ‘not at all’ to ‘completely’. The Cronbach alpha coefficient as reported by Cable and Judge (1996) was $\alpha = .87$.

Loneliness at Work. Loneliness at work was measured using Wright, Burt and Strongman's (2006) 16-item two factor scale (emotional deprivation and lack of social companionship). The scale uses a seven-point Likert scale. The Cronbach alpha coefficients as reported by Wright, Burt and Strongman (2006) was $\alpha = .93$ for the emotional deprivation factor, and $\alpha = .87$ for the social companionship factor.

Intention to Turnover. Intention to Turnover was measured using a three-item scale developed by Landau and Hammer (1986). The measure uses a seven-point anchored response format. The Cronbach alpha coefficient as reported by Landau and Hammer (1986) was $\alpha = .77$. Factor analyses of the items demonstrate a unidimensional structure, and its differentiation from organisational commitment (Landau & Hammer, 1986).

Organisational Commitment. To assess overall organisational commitment, participants were asked to respond to the six-item British Organisational Commitment Scale developed by Cook and Wall (1980). The measure uses a seven-point Likert-scale. Clegg and Wall (1981) reported a Cronbach alpha coefficient of $\alpha = .67$.

Job Satisfaction. The amount of satisfaction individuals experience in their job was measured using Hackman and Oldham's (1975) three item measure of job satisfaction. The measure uses a seven-point Likert scale. Hackman and Lawler (1971) reported an internal consistency reliability of $\alpha = .76$. Katz (1978) reported an internal consistency reliability of $\alpha = .74$.

Perceived Job Stress. The 10-item Perceived Stress Scale was used to gauge stress reactions (Cohen, Kamarck and Mermelstein, 1983). To differentiate from personal stress, the scale was shortened and adapted for employee-related research, with the addition of the word 'work' embedded in the items (Vandenberg *et al.*, 2002). The scale uses a five-point Likert scale. Vandenberg *et al.* (2002) report a Cronbach alpha coefficient of $\alpha = .88$.

Life Satisfaction. Life Satisfaction was measured using the five-item Satisfaction with Life Scale, developed by Diener, Emmons, Larsen and Griffin (1985). The unidimensional scale measures an overall evaluation of life satisfaction, with each item reflecting various facets of subjective happiness with life. The measure uses a seven-point Likert scale. The Cronbach alpha coefficient as reported by Diener, Emmons, Larsen and Griffin (1985) was $\alpha = .87$.

Analytical Procedures

Structural equation modelling was used to test whether the data obtained corresponded with the proposed theoretical model. As per the recommendation of Schumacker and Lomax (1996), the three measurement models were evaluated and refined prior to validating the structural model (see Figure 1). The following fit indices were used to interpret the models: chi-square, goodness of fit index (GFI), adjusted goodness of fit (AGFI), comparative fit index (CFI), root mean square error of approximation (RMSEA), and Bayesian information criteria (BIC) for model comparison (Hu & Bentler, 1995). Exploratory factor analysis indicated that all but one of the manifest variables were unidimensional. The Organisational Commitment scale favoured a two factor solution, however a large general factor was observed and so the scale was treated as unidimensional. To improve the likelihood of acceptable model fit, the items were parcelled (Hu & Bentler, 1995). Due to the newness of the loneliness at work scale, the measurement model was analysed at the item-level (Bandalos, 2002; Bandalos & Finney, 2001; Hall, Snell, & Foust, 1999).

RESULTS

Table 1 shows means, standard deviations, correlations, and reliabilities for all variables.

 Insert Table 1 about here

Results: Measurement Models

Measurement Model 1: Antecedent Conditions of Loneliness at Work. The initial measurement model for the antecedent conditions did not fit well with the data as shown in Table 2. The model exhibited poor standardised path coefficients on several variables. Consequently, a series of adjustments were necessary to obtain sufficient fit while maintaining conceptual coherence. Due to poor factor loadings and the lack of clustering among the manifest variables to their intended latent variable, the job characteristics and personality latent variables were removed from the measurement model. These procedures resulted in marked improvement in model fit, however resulted in the rejection of hypotheses 1 and 3. The non-work social support factor continued to demonstrate a low path coefficient leading to the social support latent variable (-.06) and was subsequently removed from the model. After the modifications were performed, the measurement model consisted of two latent factors, namely social support (co-worker support and supervisor support) and organisational climate (climate of fear, community spirit, and person-environment fit). The final measurement model demonstrated acceptable factor loadings according to Comrey and Lee's (1992) criteria² and acceptable model fit, as shown in Table 2. Comparison between the original and final model was significant: $\Delta\chi^2 = 437.2$ ($\Delta df = 41$, $p < .001$), RMSEA ranges did not overlap, and the BIC difference was 532.12, favouring the final model.

 Insert Table 2 about here

Measurement Model 2: Loneliness at Work. The two-factor measurement model for the loneliness at work latent variable provided satisfactory fit ($\chi^2 = 383.5$ ($df = 103$), GFI: .87, AGFI: .83, CFI: .93. RMSEA: .09, RMSEA 90% Confidence Interval: .08-.10).

² The standardised factor loadings can be interpreted as follows: below .46 is poor, between .46 and .54 is fair, between .55 and .62 is good, between .63 and .70 is very good, and a loading above .71 is excellent. Standardized paths below .32 are considered too low for interpretive value, and are therefore removed.

Measurement Model 3: Outcomes of Loneliness at Work. The initial measurement model for the two outcome variables did not perform as expected, as shown in Table 3. To improve model fit, one latent variable was created incorporating all of the manifest variables. Previous research (e.g. Hom, Caranikas-Walker, Prussia & Griffeth, 1992) has shown that job satisfaction has a direct relationship with an individual's intention to leave the organisation. Therefore, it seems they are tapping into similar affective responses and withdraw cognitions. When all manifest variables were run as a single-factor model, fit improved however RMSEA failed to fall within the acceptable range. Diagnostic analyses suggested that the life satisfaction variable was performing poorly and was therefore removed from the latent model. This resulted in acceptable fit for the model, as shown in Table 3. Comparison between the original and final model was significant: $\Delta\chi^2 = 429.54$ ($\Delta df = 5$, $p < .001$), RMSEA ranges were not overlapping, and the BIC difference was 429.49 favouring the final model.

 Insert Table 3 about here

Results: Structural Model

After identifying three well-fitting measurement models, the structural model was tested. Initial fit of the overall structural model was disappointing, as indicated in Table 4. Given the lack of fit with the data, a series of refinements were necessary in order to obtain acceptable fit. The social support latent variable performed poorly in the structural model with mediocre factor loadings between the supervisor support factor and the social support latent variable (.47), and between the social support latent variable and the social companionship factor of the loneliness scale (-.49). The social companionship factor also demonstrated a very weak factor loading leading to the employee attitude latent variable (-.04). In manipulating the model to improve fit, the social support latent variable also demonstrated poor loadings with the emotional deprivation factor of loneliness (-.32). Despite

the adequacy of the social companionship factor within the two-factor measurement model of the loneliness at work scale, its poor performance within the overall structural model resulted in its removal. Similarly with the social support latent variable, due to its poor factor loadings within the structural model, and its relatively low variance compared with the emotional climate latent variable, it was also removed. Perceived job stress also demonstrated a relatively low factor loading (.42) within the employee attitude and wellbeing latent variable, and was subsequently removed from the structural model.

The above deletions were based on model diagnostics, fit statistics and the strength of path coefficients. This resulted in a model comprising of organisational climate leading to the emotional deprivation factor of loneliness, which consequently mapped onto employee attitude. Using the guidance of model diagnostic tools, items one and six of the emotional deprivation factor of loneliness were deleted. However, despite this attempt, model fit remained mediocre with a low path coefficient from emotional deprivation to employee attitude (.51). In order to achieve adequate model fit, the path was modified to run directly from the emotional climate latent variable to the employee attitude latent variable (see Figure 2). This change indicates that the quality of interpersonal relationships at work does not mediate the relationship between organisational climate and employee wellbeing. Alternative modifications to the structural model resulted in poorer fit, weaker path coefficients, or illogical theoretical reasoning.

 Insert Figure 2 about here

The final structural model is shown in Figure 2. Fit statistics for the original and final models are shown in Table 4. Comparison between the original and final model was only partially significant: $\Delta\chi^2 = 892.66$ ($\Delta df = 208$, $p < .001$), BIC difference 1333.03, however the RMSEA ranges were slightly overlapping. The refined structural model was very close to

achieving fit according to the criteria of Hu and Bentler (1999). The standardised path coefficients for the final structural model were significant, with organisational climate being the sole latent predictor of the emotional deprivation factor of loneliness. Organisational climate was defined by community spirit (-.88), climate of fear (.81), and person-environment Fit (-.65). The employee attitude latent variable was defined by job satisfaction (-.91), organisational commitment (.78), and intention to turnover (.85). Thus hypotheses 1, 2, and 3 are rejected indicating that personal characteristics, social support, and job characteristics are not predictive of loneliness within the model. Hypothesis 4 is partially supported in that organisational climate is predictive of loneliness at work, but only for the emotional deprivation factor of loneliness. Hypothesis 5 is supported but only in relation to the emotional deprivation factor of loneliness predicting organisational commitment and intention to turnover. Hypothesis 6 is also only partially supported in that the emotional deprivation of loneliness is predictive of job satisfaction.

 Insert Table 4 about here

DISCUSSION

The loneliness at work model described in this paper specified a linear arrangement of antecedent conditions affecting loneliness at work, which in turn affected employee attitude and wellbeing. It was hypothesised that personal characteristics (made up of extraversion, emotional stability and competitive attitude), social support (from co-workers, supervisor, and non-work sources), job characteristics (workload, span of control), and organisational climate (represented by a climate of fear, community spirit, and organisational fit) were thought to collectively influence the degree of loneliness experienced in the workplace. Loneliness at work, which was represented by emotional deprivation and a lack of social companionship, was also hypothesised to affect employee wellbeing (comprising perceived job stress, job

satisfaction, and life satisfaction) and employee attitude (intention to turnover and organisational commitment). Due to poor model fit with the original measurement and structural models, refinement resulted in a structural model whereby organisational climate influenced both the emotional deprivation factor of loneliness at work and employee attitude, comprising job satisfaction, organisational commitment, and intention to turnover. This result indicates that good quality relationship development is problematic in workplaces which exhibit a climate of fear, poor community spirit, and low congruence between an employee's values and those of the organisation.

Methodological problems limit the support for the loneliness at work model. Despite careful selection and development of instruments, which were either validated previously or in the current research, one reason why the model failed to demonstrate a sufficient structural pattern was due to the variables not sharing sufficient variance to tap into a unified latent variable. However, despite these limitations, it is of note that the sole surviving latent variable tapping into the emotional deprivation factor of loneliness is predominately an environmental predictor of loneliness. While it would be inaccurate to conclude that personal characteristics, social support and job characteristics do not play a role in the development of loneliness, the final results are nonetheless interesting, and suggest that environmental factors do feature in the development of work-related loneliness.

In many respects, the organisational climate latent variable represents various indicators of interpersonal difficulties with workplace relationships, characterised by a negative psychological milieu. In terms of the research literature on loneliness, interpersonal conflict within an individual's existing relationships can significantly contribute to feelings of loneliness (Rook, 1988). In earlier research, Rook (1984) indicated that the number of conflicting relationships elderly widowed women had, significantly predicted greater loneliness. Whilst this is not evidence for a cause and effect relationship, it seems plausible

that an elevated level of interpersonal conflict can trigger loneliness by reducing the quality of interpersonal relationships. Rook (1984a) also indicates that relationship development can be equally problematic as relationship initiation when the social environment exhibits a certain degree of interpersonal conflict.

According to the current research, a lack of workplace cohesion contributes to a negative organisational climate. Working in a productive environment without a sense of community can contribute, according to the results from this study, to a sense of loneliness. Seidenberg (1980) commented that working in an atmosphere of distrust and suspicion can have a brutalising effect on one's character and sense of belonging within an organisation. In many ways the workplace is replacing traditional social institutions, such as church and community groups, and as a result employees are becoming more aware of the quest for nonmaterial fulfilment at work, such as good quality interpersonal relationships (Giacalone & Jurkiewicz, 2003). Consequently, the idea of the workplace being a social foundation for developing a sense of belonging is becoming increasingly relevant to organisational settings (Pfeffer, 2003).

The finding that a climate of fear can contribute to loneliness at work is also an interesting result. Ryan and Oestreich (1991) discuss fear in the workplace as an 'undiscussable' organisational problem. As such, the issues surrounding a negative emotional climate in a particular workplace are not often brought to light. This situation, together with the fact that loneliness is often considered a 'taboo' subject (Creagh, 1995), can make addressing poor emotional climates problematic. While it is often difficult to determine the initiating cause of the negative climate, managers and leaders often express ignorance (or perhaps wilful blindness) with regards to organisational morale problems, and the factors which may be causing the negativity. The key informants of organisational decisions and practices may therefore not have a good handle on the 'pulse' of employee problems (Jex &

Crossley, 2005). However, pinpointing the cause of the negative climate can be difficult where deep-rooted organisational, personal, and behavioural issues exist. As such, the reasons for a negative emotional climate could vary considerably.

The results from this research support previous research indicating that loneliness and a lack of social support are distinguishable constructs (e.g. Rook, 1988). The results indicate that co-worker and supervisor support are not associated with the social companionship factor of loneliness. Whilst one would think that a lack of social support at work was predictive of the experience of loneliness at work, the current research illustrates that there is an empirical distinction between actual social support and the perception of social companionship. In terms of implications, this result would suggest that attending to the emotional climate of the organisation, rather than offering objective social support, is perhaps more critical in addressing loneliness at work. However, with no empirical data from previous research to validate this study, this result can only be considered a beginning and represents a work-in-progress.

Rethinking the Loneliness at Work Model & Future Research Directions

In hindsight, it is likely that the various relationships between the constructs in the loneliness at work model are not limited to a linear process. Although the most plausible directions for the pathways in the model were tested, longitudinal research is needed to tease out possible reciprocal processes. For example, loneliness at work may well be a stressor and a strain depending on the individual and the situation. A longitudinal design incorporating quasi-experimental methods, whereby loneliness was measured at time intervals corresponding with temporal stress fluctuations, could potentially address the causal mechanisms of the stress-loneliness relationship. Furthermore, the possibility of common method variance as an alternative explanation of the relationships between the antecedents and loneliness cannot be completely ruled out. However, all of the scales used in the study

were reliable and valid which makes them less resistant to method-variance problems (Spector, 1987).

Regarding other relationships within the loneliness at work model, the sequence of relationships between social support and organisational climate may require restating. For example, Odden and Sias' (1997) research suggests that peer relationships are associated with supervisor's behaviour. Their research found employees are more likely to form friendships with co-workers when they perceive their supervisor as being unsupportive, unfair, untrustworthy, and unwilling to provide recognition of employee accomplishment. Previous research by Sias and Jablin (1995) also indicates that co-workers become closer when they perceive their supervisor has treated particular group members unfairly. In the case of the present research, it could be that a lack of supervisor support may influence both fear at work and the perception of co-worker support. Contextual factors, such as supervisor consideration, may therefore influence other organisational factors simultaneously, which may indirectly affect the development of loneliness.

One of the difficulties in studying a phenomenon such as loneliness is the host of cognitive processes which potentially moderate the perception of various situations which are thought to trigger loneliness. It would therefore seem probable that the experience of loneliness is concerned with the appraisal of the individual's social environment, rather than simply personality characteristics in themselves. Future research may therefore benefit from looking more closely at the appraisals individuals make which influence how they interact with and interpret their social environment. It appears that the transactional view (that is, both environmental and individual factors interacting to influence loneliness) offers a valid explanation for the development of loneliness. As such, in order to further understand loneliness at work this research must continue to consider the characteristics of the individual

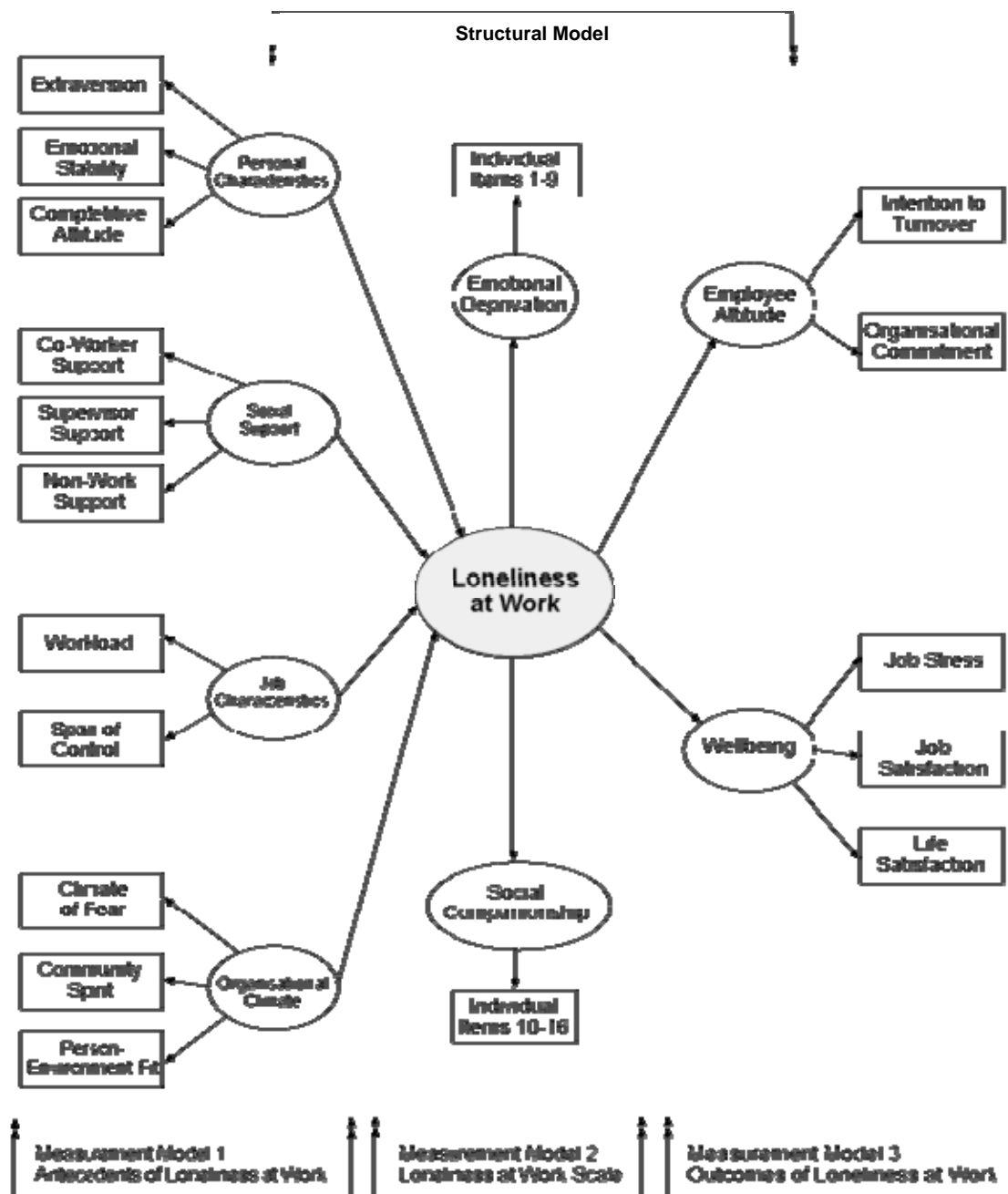
and the ways in which they operate in their social environment, and also on the ways in which the social environment operates on the individual.

According to Potthoff (1976) and Rokach (1985) much of the meaning in life comes from interacting and relating to others. Accordingly, when this aspect is missing in one's life, loneliness can be felt very deeply. Wood (1986) also argues that loneliness provokes fundamental emotions and is one of the most powerful human experiences. For the large majority of people however, loneliness is not a permanently distressing condition. Loneliness can be dissipated quite readily through the emotional connection with another individual. In fact, correlational studies suggest that finding social connection with just one companion may be sufficient to buffer feelings of loneliness for those at risk of social isolation (Ernst & Cacioppo, 1998). Interestingly, this finding is not peculiar to adult relationships. Parker and Asher (1993) found that children who were rejected by their peers were buffered from feeling lonely if they maintained one close friendship. During various developmental stages in life, finding the capacity to form one close friendship appears to reduce the likelihood of loneliness. This conclusion forms the research question for a forthcoming study; is the presence of just one 'good quality' relationship in the workplace sufficient to ward off feelings of loneliness?

Krackhardt and Stern (1988) have noted that much of the influence and the actual work within an organisation is accomplished through an informal structure of friends, contacts, and 'accidental' communications. Broadly speaking, increased attention to the development and quality of interpersonal relationships at work may therefore be advantageous in understanding the dynamics of organisational behaviour and improving both individual and organisational wellbeing. Given the complex nature of interpersonal relationships, organisations, and loneliness, this study has gone some way toward understanding the potential for people to feel lonely at work.

FIGURE 1

Proposed Model of Loneliness at Work



Final Structural Model

Table 1
Means, Standard Deviations, Correlations, and Reliabilities ^a

Research Variables	Mean	s.d.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
1.Extraversion	33.25	7.85	.88																
2.Emotional Stability	36.14	7.68	.21	.88															
3.Competitive Attitude	11.04	4.21	.01	-.29	.85														
4.Co-Worker Support	15.23	3.99	.24	.09	-.04	.87													
5.Supervisor Support	17.21	2.85	.22	.13	-.07	.49	.80												
6.Non-Work Support	28.31	8.42	-.19	.06	-.09	.07	.06	.92											
7.Span of Control	3.25	19.19	-.03	-.05	.04	-.04	-.05	.02											
8.Workload	10.75	3.58	-.06	-.10	.01	-.11	-.15	-.05	-.08	.82									
9.Climate of Fear	36.81	13.54	-.20	-.33	.21	-.42	-.53	-.11	.03	.22	.88								
10.Community Spirit at Work	40.09	10.07	.23	.19	-.12	.57	.77	.07	-.01	-.15	-.73	.89							
11.Person-Environment Fit	10.15	2.51	.14	.17	-.07	.33	.42	.06	.02	-.13	-.55	.59	.70						
12.Intention to Turnover	9.35	6.10	-.07	-.11	.10	-.29	-.48	.01	-.03	.10	.46	-.57	-.44	.91					
13.Organisational Commitment	31.16	6.92	.15	.12	-.13	.36	.49	-.02	.06	-.14	-.58	.67	.60	-.66	.83				
14.Perceived Job Stress	15.38	4.72	-.12	-.38	.16	-.28	-.42	.00	.05	.48	.60	-.52	-.39	.39	-.44	.83			
15.Job Satisfaction	23.46	6.70	.18	.20	-.12	.33	.54	.07	.04	-.07	-.59	.66	.54	-.80	.68	-.50	.87		
16.Life Satisfaction	25.27	6.21	.20	.27	-.11	.08	.08	.36	.08	-.08	-.21	.18	.20	-.16	.17	-.24	.31	.87	
17.Loneliness	42.60	18.54	-.30	-.25	.17	-.62	-.48	-.13	.01	.18	.64	-.69	-.48	.46	-.52	.51	-.53	-.23	.94

^a $n = 363$. Reliabilities are on the diagonal. Correlations greater than .13 are significant at $p < .01$.

TABLE 2
Fit Statistics for the Original and Final Measurement Models
for the Antecedents of Loneliness at Work

Model	Goodness of Fit Indices			Comparative Fit		
	GFI	AGFI	CFI	RMSEA	RMSEA 90% CI	BIC
Original model ($\chi^2 = 492.4$; $df = 45$)	.84	.77	.56	.17	.15 - .18	616.19
Final Model ($\chi^2 = 19.2$; $df = 4$)	.98	.92	.98	.10	.06 - .15	84.07

Note. GFI = goodness of fit; AGFI = adjusted GFI; CFI = comparative fit index; RMSEA = root mean standard error of approximation; CI = confidence interval; BIC = Bayesian information criterion.

TABLE 3
Fit Statistics for the Original and Final Measurement Models
for the Outcomes of Loneliness at Work

Model	Goodness of Fit Indices			Comparative Fit		
	GFI	AGFI	CFI	RMSEA	RMSEA 90% CI	BIC
Original model ($\chi^2 = 429.93$; $df = 6$)	.78	.45	.45	.44	.41 - .48	482.93
Final Model ($\chi^2 = 0.39$, $p = .53$; $df = 1$)	1.00	1.00	1.00	.00	.00 - .12	53.44

Note. GFI = goodness of fit; AGFI = adjusted GFI; CFI = comparative fit index; RMSEA = root mean standard error of approximation; CI = confidence interval; BIC = Bayesian information criterion.

TABLE 4
Fit Statistics for the Original and Final Structural Models

Model	Goodness of Fit Indices			Comparative Fit		
	GFI	AGFI	CFI	RMSEA	RMSEA 90% CI	BIC
Original SEM ($\chi^2 = 1121.16$, $p = .00$; $df = 270$)	.79	.75	.87	.09	.088-.099	1445.36
Final SEM ($\chi^2 = 228.5$, $p = .00$; $df = 62$)	.92	.88	.96	.086	.074-.098	399.39

Note. GFI = goodness of fit; AGFI = adjusted GFI; CFI = comparative fit index; RMSEA = root mean standard error of approximation; CI = confidence interval; BIC = Bayesian information criterion.

REFERENCES

- Ashkanasy, N., & Nicholson, G. (2003). Climate of fear in organisational setting: Construct definition, measurement and a test of theory. *Australian Journal of Psychology*, 55 (1), 24-29.
- Ashmos, D., & Duchon, D. (2000). Spirituality at work: A conceptualisation and measure. *Journal of Management Inquiry*, 9 (2), 134-145.
- Bandalos, D. L. (2002). The effects of item parceling on goodness-of-fit and parameter estimate bias in structural equation modeling. *Structural Equation Modeling*, 9, 78-102.
- Bandalos, D. L., & Finney, S. J. (2001). Item parceling issues in structural equation modeling. In G. A. Marcoulides & R. E. Schumacker (Eds.), *New developments and techniques in structural equation modeling* (pp. 269-296). Mahwah, NJ: Lawrence Erlbaum.
- Berman, E., West, J., & Richter, M. (2002). Workplace relations: Friendship patterns and consequences (according to managers). *Public Administration Review*, 62(2), 217-230.
- Cable, D. M., & Judge, T. A. (1996). Person-organization fit, job choice decisions, and organizational entry. *Organizational Behavior and Human Decision processes*, 67, 294-311.
- Cacioppo, J., Hawkey, L., & Berntson, G. (2003). The anatomy of loneliness. *Current Directions in Psychological Science*, 12, 71-74.
- Caplan, R., Cobb, S., French, J., Van Harrison, R., Pinneau, S. (1975). *Job demands and worker health: Research report*. University of Michigan: Institute for Social Research.
- Clegg, C. & Wall, T. (1981). A note on some new scales for measuring aspects of psychological well-being at work. *Journal of Occupational Psychology*, 54, 221-5.
- Cobb S (1976). Social support as a moderator of life stress. *Psychosomatic Medicine* 38, 300-314.
- Cohen, S., Kamarck, T., & Mermelstein R. (1983). A global measure of perceived stress. *Journal of Health and Social Behavior*, 24, 385-396.
- Cook, J., & Wall, T. (1980). New work attitude measures of trust, organizational commitment and personal need non-fulfilment. *Journal of Occupational Psychology*, 53, 39-52.
- Cooper, C., Dewe, P., & O'Driscoll, M. (2001). *Organizational Stress: A review and critique of theory, research, and applications*. Thousand Oaks, CA: Sage Publications.

- Creagh, T. (1995). *Loneliness: a taboo topic for New Zealand*. Orewa, NZ: Colcom Press.
- De Botton, A. (2002). *The art of travel*. London : Hamish Hamilton.
- De Jong-Gierveld, J. (1987). Developing and testing a model of loneliness. *Journal of Personality and Social Psychology*, 53, 119-128.
- Diener, E., Emmons, R., Larsen, R., Griffin, S. (1985). The Satisfaction with Life Scale. *Journal of Personality Assessment*, 49, 71-75.
- Dolan, S., & Renaud, S. (1992). Individual, organisational and social determinants of managerial burnout: A multivariate approach. *Journal of Social Behaviour and Personality*, 7, 95-110.
- Dozier, R. (1998). *Fear Itself: The Origin and Nature of the Powerful Emotion That Shapes Our Lives and Our World*. New York: St Martin's Press.
- Ernst, J., & Cacioppo, J. (1998). Lonely hearts: Psychological perspectives on loneliness. *Applied & Preventative Psychology*, 8, 1-22.
- Fine, G. (1986). Friendships in the work place. In V. Derlega & B. Winstead (Eds.), *Friendship and social interaction*. New York: Springer-Verlag.
- Franken, R., & Brown, D. (1995). Why do people like competition? The motivation for winning, putting forth effort, improving one's performance, performing well, being instrumental, and expressing forceful/aggressive behaviour. *Personality and Individual Differences*, 19 (2), 175-184.
- Gaev, D. (1976). *The psychology of loneliness*. Columbus: Adams.
- Giacalone, R., & Jurkiewicz, C. (2003). Toward a science of workplace spirituality. In R. Giacalone & C. Jurkiewicz (Eds.), *Handbook of workplace spirituality and organisational performance*. Armonk, New York: M.E. Sharp.
- Gilbreath, B. (2004). Creating healthy workplaces: The supervisor's role. In C. Cooper & I. Robertson (Eds.), *International Review of Industrial and Organizational Psychology*, 19, 93-118.
- Goldberg, L. (1999). A broad-bandwidth, public-domain, personality inventory measuring the lower-level facets of several five-factor models. In I. Mervielde, I. Deary, F. De Fruyt, & F. Ostendorf (Eds.), *Personality Psychology in Europe*, vol. 7 (pp. 7-28). Tilburg, The Netherlands: Tilburg University Press.

- Greenhaus, J., Parasuraman, A., & Wormley, W. (1990). Effects of race on organisational experiences, job performance evaluations, and career outcomes. *Academy of Management Journal*, 33(1), 64-86.
- Hackman, J., & Oldham, G. (1975). Development of the Job Diagnostic Survey. *Journal of Applied Psychology*, 60, 159-170.
- Hackman, R., & Lawler, E. (1971). Employee Reactions to Job Characteristics. *Journal of Applied Psychology*, 55, 259-286.
- Hall, R., Snell, A., & Foust, M. (1999). Item parceling strategies in SEM: Investigating the subtle effects of unmodeled secondary constructs. *Organization Research Methods*, 2, 233-256.
- Hanisch, K. A. (1995). Organizational withdrawal. In N. Nicholson (Ed.), *The Blackwell encyclopaedic dictionary of organizational behavior* (p. 604). Cambridge, MA: Blackwell.
- Hart, L., Zasloff, R., & Benfatto, A. (1996). The socialization role of hearing dogs. *Applied Animal Behaviour Science*, 47, 7-15.
- Hojat, M. (1982). Psychometric characteristics of the UCLA Loneliness Scale: A study with Iranian college students. *Educational & Psychological Measurement*, 42(3), 917-925.
- Hom, P., Caranikas-Walker, F., Prussia, G., & Griffeth, R. (1992). A meta-analytical structural equations analysis of a model of employee turnover. *Journal of Applied Psychology*, 77, 890-909.
- Hu, L., & Bentler, P. (1995). Evaluating model fit. In R. Hoyle (Ed.), *Structural equation modeling: Concepts, issues, and applications*. Thousand Oaks, CA: Sage.
- Jex, S. (1998). *Stress and job performance: Theory, research, and implications for managerial practice*. Thousand Oaks, CA: Sage Publications.
- Jex, S., & Crossley, C. (2005). Organizational Consequences. In J. Barling, E. Kelloway, M. Frone (Eds.), *Handbook of work stress*. Thousand Oaks, CA: Sage Publications.
- Joyce, A. (2004). Are friends good for business? *The Christchurch Press*, July 17, 11.
- Katz, R. (1978). Job longevity as a situational factor in job satisfaction. *Administrative Science Quarterly*, 23 (2), 204-223.

- Killeen, C. (1998). Loneliness: An epidemic in modern society. *Journal of Advanced Nursing*, 28, 762-770.
- Klitzman, S., House, J., Israel, B., & Mero, R. (1990). Work stress, non-work stress, and health. *Journal of Behavioral Medicine*, 13, 243.
- Krackhardt, D. & Stern, R. (1988). Informal networks and organizational crises. *Social Psychology Quarterly* 51 (2), 123-140.
- Landau, J., & Hammer, T. (1986). Clerical employees' perceptions of intra organizational career opportunities. *Academy of Management Journal*, 29(2), 385-404.
- Lee, T. W., Mitchell, T. R., & Wise, L. (1996). An unfolding model of voluntary employee turnover. *Academy of Management Journal*, 39, 5-36.
- Lindorff, M. (2001). Are they lonely at the top? Social relationships and social support among Australian Managers. *Work and Stress*, 15 (3), 274-282.
- Marangoni, C. & Ickes, W. (1989) Loneliness: A theoretical review with implications for measurement. *Journal of Social & Personal Relationships*, 6(1), 93-128.
- McDonald, A. (1985). Conflict at the summit: A deadly game. In E. Collins (Ed.), *The executive dilemma* (pp. 15-29). New York: Wiley.
- Moore, T. (1996). Caring for the Soul. *Executive Excellence*, 13(6), 14.
- O'Driscoll, M. (2003). *Relationship of work-to-family and family-to-work conflict with satisfaction, psychological strain and physical health: A longitudinal investigation*. Paper presented at the 5th Australian Industrial and Organisational Psychology Conference, Melbourne, Australia.
- Odden, C., & Sias, P. (1997). Peer communication relationships and psychological climate. *Communication Quarterly*, 45, 153-166.
- Parker, J., & Asher, S. (1993). Friendship and friendship quality in middle childhood: Links with peer group acceptance and feelings of loneliness and social dissatisfaction. *Developmental Psychology*, 29(4): 611-621.
- Peplau, L. (1985). Loneliness research: Basic concepts and findings. In I. Sarason & B. Sarason (Eds.), *Social support: Theory, research and application* (pp. 270-286). Boston, MA: Martinus Nijhof.

- Peplau, L., & Perlman, D. (1982). Perspectives on loneliness. In L. Peplau & D. Perlman (Eds.), *Loneliness: A source book of current theory, research and therapy*. New York: John Wiley & Sons.
- Pfeffer, J. (2003). Business and the spirit. In R. Giacalone & C. Jurkiewicz (Eds.), *Handbook of workplace spirituality and organisational performance*. Armonk, New York: M.E. Sharp.
- Pfeifer, J., & Veiga, J. (1999). Putting people first for organization success. *Academy of Management Executive*, 13(2), 37-51.
- Potthoff, H. (1976). *Loneliness: Understanding and dealing with it*. Nashville, TN: Abingdon.
- Rice, R., Near, J. & Hunt, R. (1980). The job-satisfaction/life-satisfaction relationship: A review of empirical research. *Basic and Applied Social Psychology*, 1, 37-64.
- Rokach, A. (1985). Theoretical approaches to loneliness: From a univariate to a multidimensional experience. *Review of existential psychology and psychiatry*, 19 (2/3), 225-254.
- Rook, K. (1984). Research on social support, loneliness, and social isolation. *Review of Personality and Social Psychology*, 5, 239-264.
- Rook, K. (1984a). Promoting social bonding: Strategies for helping the lonely and social isolated. *American Psychologist*, 39 (2), 1389-1407.
- Rook, K. (1988). Toward a more differentiated view of loneliness. In S. Duck (Ed). *Handbook of personal relationships: Theory, research and interventions*. New York: Wiley.
- Russell, D., Peplau, L., & Cutrona, C. (1980). The revised UCLA Loneliness Scale: Concurrent and discriminant validity evidence. *Journal of Personality and Social Psychology*, 39 (3), 472-480.
- Ryan, K., & Oestreich, D. (1991). *Driving fear out of the organisation*. San Francisco: Jossey-Bass Publishers.
- Saklofske, D., Yackulic, R., & Kelly, I. (1986). Personality and loneliness. *Personality and Individual Differences*, 7 (6), 899-901.
- Saronson, B., Saranson, I., & Pierce, G. (1990). *Social Support: An interactional view*. New York: Wiley.

- Schumacker, R., & Lomax, R. (1996). *A beginner's guide to structural equation modeling*. Mahwah, NJ: Lawrence Erlbaum.
- Seidenberg, R. (1980). The lonely marriage in corporate America. In J. Hartog, J. Audy, & Y. Cohen (Eds.), *The anatomy of loneliness* (pp. 186-203). New York: International Universities Press.
- Sias, P., & Jablin, F. (1995). Differential superior-subordinate relations, perceptions of fairness, and co-worker communication. *Human Communication Research*, 22, 5-38.
- Spector, P. (1987). Method variance as an artefact in self-reported affect and perceptions at work: myth or significant problem. *Journal of Applied Psychology*, 72, 438-443.
- Stokes, J. (1985). The relation of social network and individual difference variables to loneliness. *Journal of Personality and Social Psychology*, 48 (4), 981-990.
- Tagiuri, R. (1968). The concept of organisational climate. In R. Tagiuri & G. Litwin (Eds.), *Organisational Climate: Explorations of a concept*. Boston: Harvard University.
- Vandenberg, R., Park, K., DeJoy, D., Wilson, M., & Griffin-Blake, C. (2002). The healthy work organization model: Expanding the view of individual health and well being in the workplace. In P. Perrewe & D. Ganster (Eds.), *Historical and Current Perspectives on Stress and Health* (pp. 57-115). London: Elsevier Science Ltd.
- Weiss, R. (1973). *Loneliness: The experience of emotional and social isolation*. Cambridge, MA: The MIT Press.
- Wood, L. A. (1986) Loneliness. In Harré, R. (ed.) *The Social Construction of Emotions*. Oxford: Basil Blackwell Ltd.
- Wright, J. (1992). *The competitive style of life: Its relationship to envy and the potential effects on interpersonal relationships*. Unpublished Doctoral Dissertation. California School of Professional Psychology, Fresno, USA.
- Wright, S., Burt, C., & Strongman, K. (2006). Loneliness in the workplace: Construct definition and scale development. *New Zealand Journal of Psychology*, 35 (2), 59-68.